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PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 10 July 2001 (10.07.01)	Applicant's or agent's file reference 33 061 M/Mq.
International application No. PCT/EP00/10712	Priority date (day/month/year) 03 November 1999 (03.11.99)
International filing date (day/month/year) 31 October 2000 (31.10.00)	
Applicant VOLTA, Bruno	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

07 May 2001 (07.05.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election
- ☒
- was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Odile ALIU Telephone No.: (41-22) 338.83.38
--	---

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

CABINET PRUGNEAU-SCHAUB
Monsieur Prugneau
36, rue des Petits Champs
F-75002 Paris
FRANCE

Date of mailing (day/month/year) 12 December 2001 (12.12.01)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference 33 061 M/Mq.	
International application No. PCT/EP00/10712	International filing date (day/month/year) 31 October 2000 (31.10.00)

1. The following indications appeared on record concerning:		
<input checked="" type="checkbox"/> the applicant	<input type="checkbox"/> the inventor	<input type="checkbox"/> the agent
<input type="checkbox"/> the common representative		
Name and Address MANNESMANN DEMATIC POSTAL AUTOMATION S.A. 14, avenue Raspail F-94257 Gentilly Cedex France	State of Nationality FR	State of Residence FR
	Telephone No. 02 11/ 8 20-0	
	Facsimile No. 02 11/ 8 20 24 73	
	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:		
<input type="checkbox"/> the person	<input checked="" type="checkbox"/> the name	<input type="checkbox"/> the address
<input type="checkbox"/> the nationality		
<input type="checkbox"/> the residence		
Name and Address SOLYSTIC 14, avenue Raspail F-94257 Gentilly Cedex France	State of Nationality FR	State of Residence FR
	Telephone No. 02 11/ 8 20-0	
	Facsimile No. 02 11/ 8 20 24 73	
	Teleprinter No.	
3. Further observations, if necessary:		
4. A copy of this notification has been sent to:		
<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned	
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned	
<input type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:	

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer François BAECHLER
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

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International Bureau



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(26) Publication Language: English

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99/13721 3 November 1999 (03.11.1999) FR

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Prugneau, 36, rue des Petits Champs, F-75002 Paris (FR).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,
DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,
TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

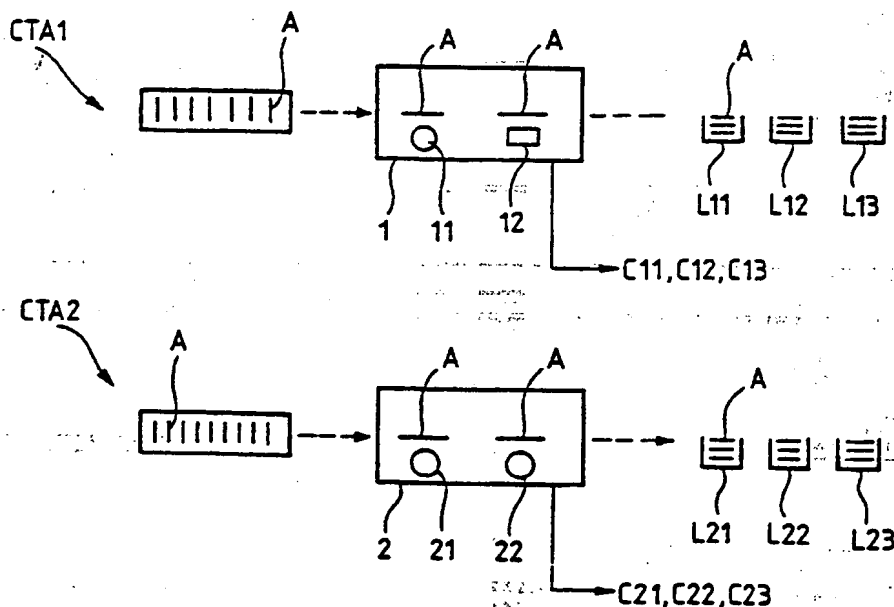
(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG,
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— With international search report.

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: POSTAL SORTING PROCESS INCLUDING RECOVERY OF ERRORS IN READING CODES AFFIXED TO THE
MAIL ITEMS



(57) Abstract: In this postal sorting process, ordered lists (C11-C23) of the sort codes affixed to the mail items are compiled in the handling sorting offices (CTA1, CTA2), these lists being representative of the order of the mail items in the batches of mail items compiled during the handling sorting phase. These lists of codes are transferred from the handling sorting offices to the distribution sorting offices and during the processing of the batches of mail items in a distribution sorting office, the codes read by machine on

WO 01/32322 A1

Postal sorting process including recovery of errors in reading codes affixed to the mail items

The invention pertains to a postal sorting process according to which mail items are sorted by machine in first sorting offices so as to compile ordered batches of mail items each corresponding to a certain zone of distribution of the mail items of the relevant batch, and in which said batches of mail items originating from various first sorting offices and corresponding to one and the same distribution zone are processed by machine in a second sorting office so as to compile one or more mailman's rounds, a machine-readable sort code indicative of a distribution address being affixed to each mail item during sorting in one of said first sorting offices with a view to being used during the processing of this mail item in the second sorting office.

The invention applies most particularly to postal sorting in handling sorting offices and subsequently in distribution sorting offices. The machine-readable sort code which is affixed to each mail item during the handling sorting phase is a matrix code, for example a bar code. In the distribution sorting phase where the mailman's rounds are prepared, errors in reading the distribution codes affixed to the mail items may be fairly frequent. These errors may be due to poor printing of the code on the mail item or to poor presentation of the mail item in front of the code reader. These reading errors penalize the performance of the distribution sorting machines and the object of the invention is to remedy this drawback.

To this end, the subject of the invention is a postal sorting process according to which mail items are sorted by machine in first sorting offices so as to compile ordered batches of mail items each corresponding to a certain zone of distribution of the mail items of the relevant batch, and in which said batches of mail items originating from various first sorting offices and corresponding to one and the same distribution zone are processed by machine in a second sorting office so as to compile one or more mailman's rounds, a machine-readable sort code indicative of a distribution address being affixed to each mail item during sorting in one of said first sorting offices with a view to being used during the processing of this mail item in the second sorting office, characterized in that it furthermore consists in compiling in said first sorting offices, ordered lists of said codes which are representative of the order of the mail items in said batches of mail items; in transferring said lists of codes from the first sorting offices to the second sorting office; and during the processing of the batches of mail items in the second sorting office, in comparing the codes read by machine on the mail

items with the codes extracted from said lists of codes with a view to recovering errors in reading said codes by machine.

The invention helps to improve considerably the effectiveness of the handling sorting and distribution sorting phases. The process according to the invention can easily be implemented if the lists of codes are transferred from the first sorting offices (the handling sorting offices) to the second sorting office (a distribution sorting office) by way of a computerized telecommunication network. This implementation may be effected on an existing pool of sorting machines without it being necessary to modify the organization of the successive sorting operations in the handling sorting offices and in the distribution sorting offices.

An exemplary implementation of the postal sorting process according to the invention is described hereinafter and illustrated in the drawings.

Figure 1 very diagrammatically illustrates a first handling sorting phase in two handling sorting offices.

Figure 2 very diagrammatically illustrates a second distribution sorting phase in a distribution sorting office.

Figure 3 illustrates the comparing of the codes read by machine on the mail items and the codes extracted from the lists of codes.

A postal procedure for sorting mail therefore breaks down into several successive sorting phases performed initially in first regional sorting offices, so-called handling sorting offices, then subsequently in second regional sorting offices, so-called distribution sorting offices. Each sorting office has sorting machines which enable it to process the mail posted in the region assigned to it.

In a handling sorting office, sorting consists in separating the mail items received into various batches of mail items, the mail items making up a batch of mail items being intended to be distributed in a certain geographical zone. The definition of handling sorting, that is to say the grouping into batches as a function of distribution zones, is the same in all the handling sorting offices. In Figure 1, this handling sorting phase has been illustrated in two handling sorting offices CTA1 and CTA2. In each handling sorting office, mail items A in a stack are loaded into a sorting machine illustrated by a block, respectively 1 and 2. The machine 1 of the office CTA1 compiles various batches of mail items indicated by L11, L12 and L13 each corresponding to a certain distribution zone of the mail items of the relevant batch. The machine 2 of the office CTA2 also compiles various batches of mail items indicated by L21, L22 and L23 also each corresponding to a certain postal distribution zone. It is of course understood that Figure 1 only illustrates a small number of batches which in reality are much more

num rous on exiting each sorting machine. Each batch of mail items is packed into a box so as to be easily transported to a distribution sorting office.

As illustrated in Figure 1, each sorting machine 1, 2 respectively, comprises a device 11, respectively 21, for reading and analyzing the postal distribution address of each mail item A processed by the machine and a device 12, respectively 22, for printing a sort code on each mail item which is machine-readable and which is indicative of the postal distribution address of this mail item which has been read by the device 11, respectively 21. This code makes it possible to speed up the subsequent sorting operations carried out on the coded mail items. This code is conventionally a bar code which directly identifies the destination of the mail item or else constitutes a unique identifier of the mail item which serves to retrieve the destination of the mail item from a database.

It is of course understood that the devices 11 and 12 of the sorting machine 1 and the devices 21 and 22 of the sorting machine 2 are organized around a microcomputer (or a similar electronic control unit) which governs the sorting procedure in the sorting machine to which it is assigned. Each microcomputer governing the sorting procedure in a sorting machine such as 1 or 2 is able to compile for each batch of mail items compiled by the sorting machine, an ordered list of sort codes which is representative of the order of the mail items in the relevant batch of mail items. In Figure 1, C11, C12 and C13 respectively designate the lists of codes compiled by the sorting machine 1 in respect of batches L11, L12 and L13 in the sorting office CTA1. Likewise, C21, C22 and C23 respectively designate the lists of codes compiled by the sorting machine 2 in respect of batches L21, L22 and L23 in the sorting office CTA2. These lists of codes are in practice electronic files which can be transferred by way of a computerized telecommunication network from the handling sorting office where they have been compiled to one or more distribution sorting offices, doing so in parallel with the transporting of the boxes of mail items.

To simplify the description of the process according to the invention, the batches L11 and L21 compiled respectively in the handling sorting offices CTA1 and CTA2 will be regarded as corresponding to one and the same distribution zon .

Figure 2 illustrates a distribution sorting phase which is carried out in a distribution sorting office CTD to which the batches of mail items L11 and L21 have been transferred tog ther with the corresponding lists of codes C11 and C21. In this sorting office CTD, the batches of mail items L11 and L21 are merged and loaded into a sorting machine illustrated by the block 3 which, in on or more passes, compiles one or more mailman's rounds indicated by T1, T2, T3. The

sorting machine 3 comprises a reader 31 of the sort codes affixed to the mail items, for example a bar code reader, this making it possible to speed up the sorting procedure. In practice, the mail items A constituting the batches L11 and L21 are stacked and serialized before each traveling past the reader 31 so as to be sorted. Although the operations for destacking and for placing the mail in the boxes are usually manual, one can regard the order of destacking of the mail items A in the sorting machine 3 as generally being identical to the order in which the mail items have been stored in a box originating from a handling sorting office. The sorting procedure of the sorting machine 3 is also governed by a microcomputer or similar which is able to compare the codes obtained by the reader 31 on the mail items A with the codes extracted from the lists of codes C11 and C12 so as to recover reader 31 reading errors.

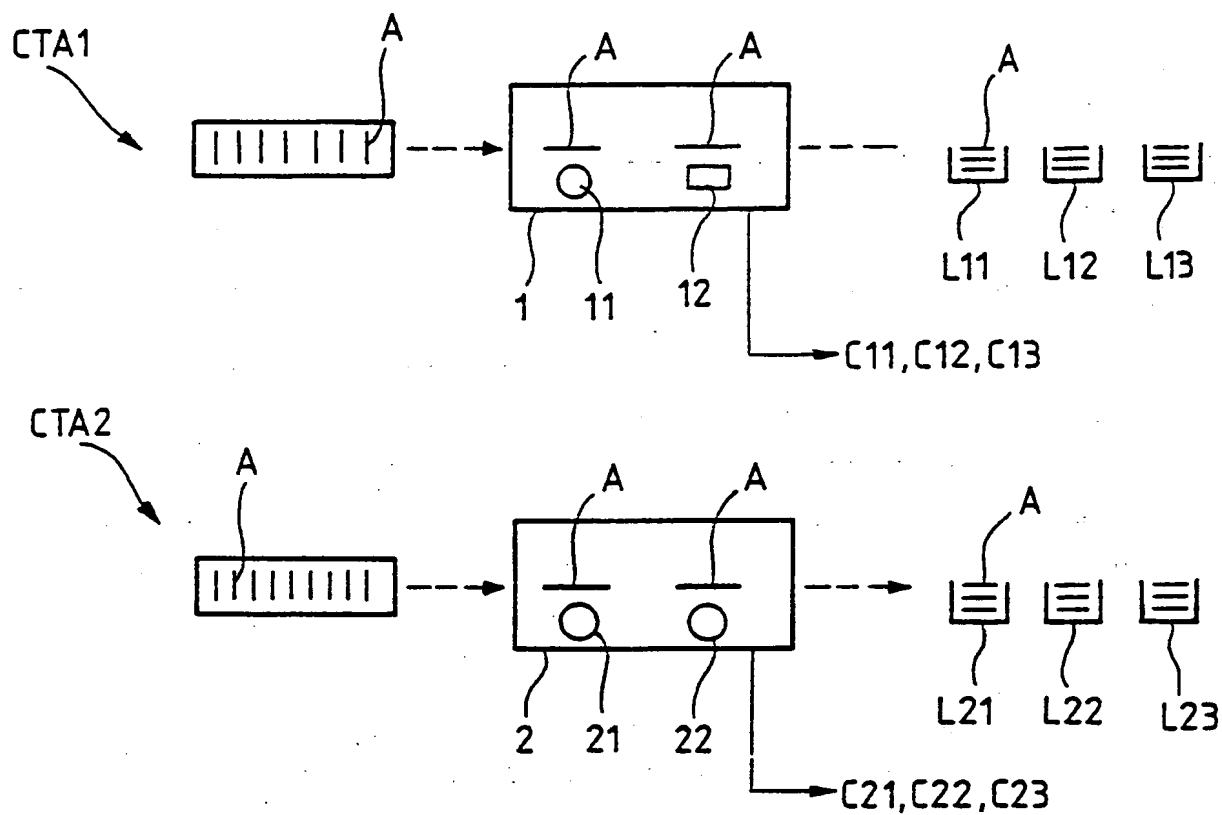
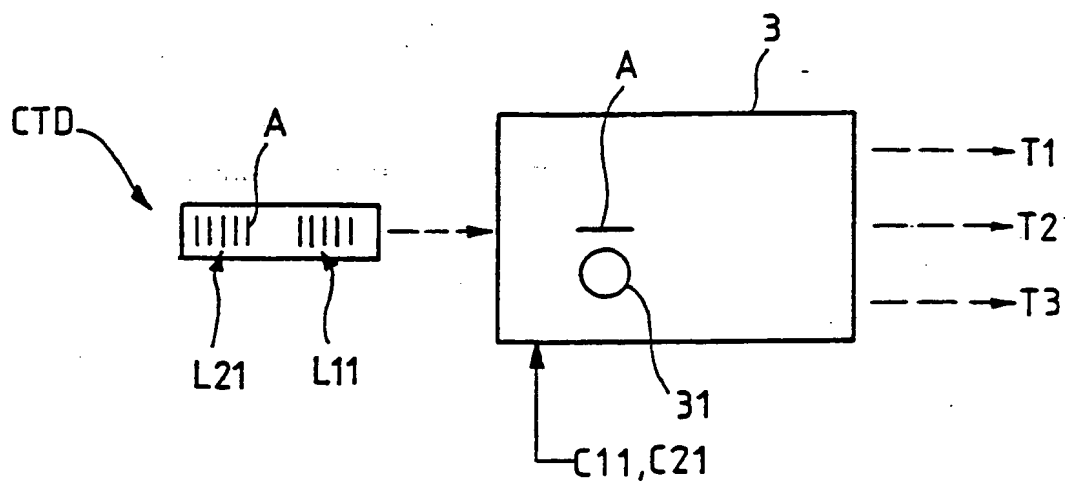
More particularly in Figure 3, this entails comparing a current sequence S of codes read by the reader 31 during the destacking of the mail items with a sequence of the same depth in the lists of codes supplied to the sorting machine 3, here C11 and C12, so as to identify at 10 in one of these lists of codes, the sequence of codes which corresponds to the current sequence of codes which is obtained by the reader 31. Thus, when a code affixed to a mail item cannot be read off by the reader 31 from this mail item, as indicated by the code ?, for example because this code is poorly printed or because the mail item is not properly presented in front of the reader, the code sequence identified in one of the lists of codes, in the exemplary case the list C21, is used to automatically deduce by association for example (code ? = code D) at 20 the value of the code which could not be read by the reader 31. The depth of the code sequences compared must be sufficient to avoid erroneous corrections. A depth of more than three mail items may typically be used. It is however limited by the time available between the instant at which the code of a mail item is read by the reader 31 and the instant at which this mail item is routed to a sorting receptacle.

CLAIMS

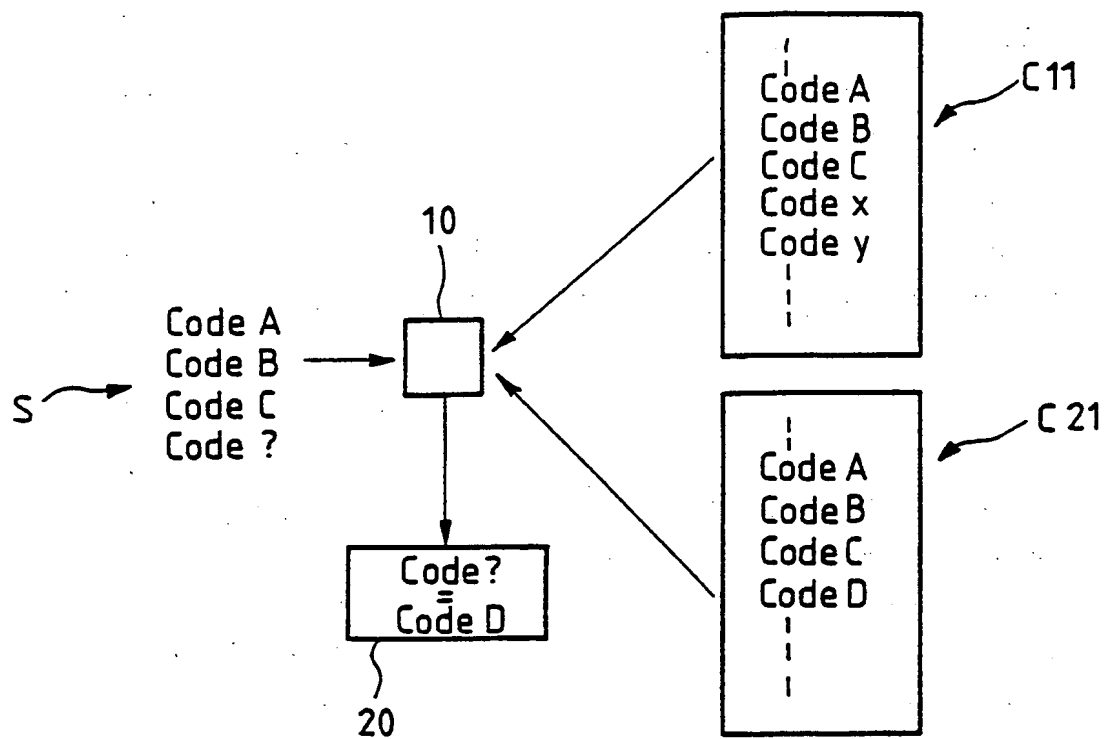
1. A postal sorting process according to which mail items (A) are sorted by machine (1, 2) in first sorting offices (CTA1, CTA2) so as to compile ordered batches of mail items (L11-L23) each corresponding to a certain zone of distribution of the mail items of the relevant batch, and in which said batches of mail items originating from various first sorting offices and corresponding to one and the same distribution zone (L11, L21) are processed by machine in a second sorting office (CTD) so as to compile one or more mailman's rounds (T1, T2, T3), a machine-readable sort code indicative of a distribution address being affixed to each mail item during sorting in one of said first sorting offices with a view to being used during the processing of this mail item in the second sorting office, characterized in that it furthermore consists in compiling in said first sorting offices, ordered lists (C11-C23) of said codes which are representative of the order of the mail items in said batches of mail items; in transferring said lists of codes from the first sorting offices to the second sorting office; and during the processing of the batches of mail items in the second sorting office, in comparing (10) the codes read by machine on the mail items with the codes extracted from said lists of codes with a view to recovering errors in reading said codes by machine.

2. The process according to claim 1, in which said lists of codes are transferred from the first sorting offices to the second sorting office by way of a telecommunication network.

1/2

FIG_1FIG_2

2/2

FIG_3

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 00/10712

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B07C3/18 B07C3/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B07C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

PAJ, WPI Data, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 424 728 A (IBM) 2 May 1991 (1991-05-02) column 5, line 2 - column 6, line 6 column 10, line 26 - line 43 column 11, line 40 - column 12, line 42; figure 11	1,2
A	NL 8 501 150 A (GEND EN LOOS N V VAN) 17 November 1986 (1986-11-17) page 1, line 1 - line 8 page 1, line 32 - page 2, line 30 page 8, paragraph 2	1,2



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

21 December 2000

Date of mailing of the international search report

03/01/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+31-70) 340-3016

Authorized officer

Gélébart, Y

INTERNATIONAL SEARCH REPORT

...ormation patent family members

Intern Application No

PCT/EP 00/10712

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0424728 A	02-05-1991	US 5031223 A	09-07-1991
		CA 2021664 A,C	25-04-1991
		DE 69016572 D	16-03-1995
		DE 69016572 T	10-08-1995
		DK 424728 T	26-06-1995
		JP 1969578 C	18-09-1995
		JP 3137975 A	12-06-1991
		JP 6094026 B	24-11-1994
NL 8501150 A	17-11-1986	NONE	

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

PRUGNEAU, Philippe
CABINET PRUGNEAU-SCHAUB
36, rue des Petits Champs
75002 Paris
FRANCE

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing
(day/month/year) 09.08.2001

Applicant's or agent's file reference
BR-25466/WO

IMPORTANT NOTIFICATION

International application No.
PCT/EP00/10712

International filing date (day/month/year)
31/10/2000

Priority date (day/month/year)
03/11/1999

Applicant
MANNESMANN DEMATIC POSTAL AUTOMATION S.A.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.


4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/

 European Patent Office
D-80298 Munich

Authorized officer

Novoa, C



ATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference BR-25466/WO		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/EP00/10712	International filing date (day/month/year) 31/10/2000	Priority date (day/month/year) 03/11/1999
International Patent Classification (IPC) or national classification and IPC B07C3/18		
Applicant MANNESMANN DEMATIC POSTAL AUTOMATION S.A.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 4 sheets, including this cover sheet.
 - ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

- This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 07/05/2001	Date of completion of this report 09.08.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich	Authorized officer Stefan M. 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/10712

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17):*

Description, pages:

1-4 as originally filed

Claims, No.:

1,2 as originally filed

Drawings, sheets:

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/10712

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims 1, 2
	No: Claims
Inventive step (IS)	Yes: Claims 1, 2
	No: Claims
Industrial applicability (IA)	Yes: Claims 1, 2
	No: Claims

2. Citations and explanations see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP00/10712

Section V:

1.) Claim 1:

EP-A2-0424728 discloses a method of sorting postal items according to the preamble of claim 1. Furthermore, in that document, the affixed ID codes are transferred from the first sorting offices to the second sorting offices. The ID codes are linked to routing/address information, which is obtained by OCR and compared to address data from a data base, to check whether the addresses recognized by OCR exist.

The subject-matter of claim 1 of the present application differs from the disclosure of EP-A2-0424728 by the characterizing features. The advantage of transferring **ordered lists of sort codes which are representative of the order of the mail items in the batches of mail items** is, that if at the second sorting office, if it is not possible to read one (or more) of these affixed sort codes, this error can be recovered by replacing these unreadable sort codes by the codes which are at the corresponding position in the ordered list corresponding to the batch of mail treated. Thus, such mail items, whose sort code could not be read by the machine, need not be read manually. This increases the reliability and speed of the sorting process.

NL-A-8501150 discloses a method of controlling, whether all mail items sent from the first office arrive at the second post offices. Furthermore, it can be checked, which mail items could not be carried out by the carriers. No machine-readable sort codes are affixed to the mail items.

Since even by combining the teachings of EP-A2-0424728 and NL-A-8501150, the person skilled in the art would not arrive at the subject-matter of claim 1 of the present application, it is considered as involving an inventive step according to article 33 (3) PCT.

2.) Claim 2:

Claim 2 comprises all the features of claim 1 of the present application and is therefore also new and inventive according to Article 33 PCT.

3.) Industrial applicability:

The industrial applicability of the invention is obvious.

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 09 AUG 2001

WIPO PCT

Applicant's or agent's file reference BR-25466/WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP00/10712	International filing date (day/month/year) 31/10/2000	Priority date (day/month/year) 03/11/1999
International Patent Classification (IPC) or national classification and IPC B07C3/18		
Applicant MANNESMANN DEMATIC POSTAL AUTOMATION S.A.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand

07/05/2001

Date of completion of this report

09.08.2001

Name and mailing address of the international preliminary examining authority:



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Authorized officer

Stenger, M



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/10712

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-4 as originally filed

Claims, No.:

1,2 as originally filed

Drawings, sheets:

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/10712

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims 1, 2
	No:	Claims
Inventive step (IS)	Yes:	Claims 1, 2
	No:	Claims
Industrial applicability (IA)	Yes:	Claims 1, 2
	No:	Claims

2. Citations and explanations
see separate sheet

Section V:

1.) Claim 1:

EP-A2-0424728 discloses a method of sorting postal items according to the preamble of claim 1. Furthermore, in that document, the affixed ID codes are transferred from the first sorting offices to the second sorting offices. The ID codes are linked to routing/address information, which is obtained by OCR and compared to address data from a data base, to check whether the addresses recognized by OCR exist.

The subject-matter of claim 1 of the present application differs from the disclosure of EP-A2-0424728 by the characterizing features. The advantage of transferring **ordered lists of sort codes which are representative of the order of the mail items in the batches of mail items** is, that if at the second sorting office, if it is not possible to read one (or more) of these affixed sort codes, this error can be recovered by replacing these unreadable sort codes by the codes which are at the corresponding position in the ordered list corresponding to the batch of mail treated. Thus, such mail items, whose sort code could not be read by the machine, need not be read manually. This increases the reliability and speed of the sorting process.

NL-A-8501150 discloses a method of controlling, whether all mail items sent from the first office arrive at the second post offices. Furthermore, it can be checked, which mail items could not be carried out by the carriers. No machine-readable sort codes are affixed to the mail items.

Since even by combining the teachings of EP-A2-0424728 and NL-A-8501150, the person skilled in the art would not arrive at the subject-matter of claim 1 of the present application, it is considered as involving an inventive step according to article 33 (3) PCT.

2.) Claim 2:

Claim 2 comprises all the features of claim 1 of the present application and is therefore also new and inventive according to Article 33 PCT.

3.) Industrial applicability:

The industrial applicability of the invention is obvious.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 00/10712

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B07C3/18 B07C3/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched: (classification system followed by classification symbols)
IPC 7 B07C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

PAJ, WPI Data, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 424 728 A (IBM) 2 May 1991 (1991-05-02) column 5, line 2 -column 6, line 6 column 10, line 26 - line 43 column 11, line 40 -column 12, line 42; figure 11	1,2
A	NL 8 501 150 A (GEND EN LOOS N V VAN) 17 November 1986 (1986-11-17) page 1, line 1 - line 8 page 1, line 32 -page 2, line 30 page 8, paragraph 2	1,2

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

*** Special categories of cited documents:**

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

21 December 2000

Date of mailing of the international search report

03/01/2001

Name and mailing address of the ISA
European Patent Office, P.B. 5818 Patentlaan 2

Authorized officer

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT 00/10712

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0424728 A	02-05-1991	US 5031223 A	09-07-1991
A 0021664	25-04-1991	CA 2021664 A,C	25-04-1991
E 0021664	16-03-1995	DE 69016572 D	16-03-1995
		DE 69016572 T	10-08-1995
		DK 424728 T	26-06-1995
		JP 1969578 C	18-09-1995
		JP 3137975 A	12-06-1991
		JP 6094026 B	24-11-1994
NL 8501150 A	17-11-1986	NONE	